

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-5, 7-15, 17-18, 21-22, and 26-29 are currently active in the case. Claims 6, 16, 19-20, and 23-25 were cancelled by previous amendments. In the present Amendment, independent Claims 1, 11, 17, and 21 are amended without introducing any new matter.

In the September 16, 2009 Office Action, Claims 1-4, 7, 10-14, 17-18, 21-22 and 24 were rejected under 35 U.S.C. § 102(e) as being anticipated by Muratani (U.S. Patent Application Publication No. 2006/0023913, now U.S. Patent No. 7,099,493). Claims 5, 15, and 26-29 were indicated as allowable if rewritten in independent form.

Applicants acknowledge with appreciation the indication of allowable subject matter in the January 26, 2009 Office Action. However, because Applicants believe that independent Claims 1, 11, 17, and 21, from which Claims 5, 15 and 26-29 depend, respectively, include allowable subject matter, Claims 5, 15 and 26-29 are maintained in dependent form a present time.

First, Applicants note that Muratani's U.S. Patent Application Publication No. 2006/0023913 is not prior art against the present application, but the parent application, U.S. Patent No. 6,983,059 and the corresponding U.S. Patent Application Publication No. 2002/0116618 that was published on August 22, 2002. In the following remarks, Applicants will refer to this earlier publication, in a spirit of moving the prosecution of this case forward. Applicants also respectfully request correction of this formal issue.

To correct minor informalities, Claims 1, 11, 17, and 21 are amended to replace "composed by" with "composed of," and to correct that "a number of parts of the partial code word [are] used." Because these changes are only formal in nature, no new matter has been added by these amendments.

In response to the rejection of Claim 1 under 35 U.S.C. § 102(e), Applicants respectfully request reconsideration of this rejection and traverses the rejection, as discussed next.

As discussed in Applicants' specification at page 15, lines 18-27, and shown in Figure 8, the features of Applicants' Claim 1 require an iterative process to find a whole code word based on the iterative recovery of only a part of the whole code word. In case the threshold correlation value of a part of the whole code word is not met, another code word part can be added to the previously recovered one, thereby using a partial code word having more information than the one previously used. This subsequent recovered code word is then again correlated with the correlator, and if the correlation value of the partial code word having an increased size is not met again, another code word part is added to the recovered code word. This iteration is continued until either the whole code word is recovered, or the dependent correlation value is met. This allows to reduce the processing, in particular in a case where the whole code word can be easily identified, without having to extract data for the whole code word from the marked material item.

For example, in hierarchical level HL1, the dependent correlation values are calculated from an individual image or frame 0, 1, 2, etc. At hierarchical level HL2, two successive images are taken into account (i.e. 0 and 1), and at hierarchical level HL3, four successive images are taken into account (i.e. 0, 1, 2, and 3.) Please note that the above discussion is citing examples of embodiments are provided for explanatory purposes only and should not be construed or used to limit the scope of the claims in any fashion.

Turning now to the applied reference, Muratani is directed to a digital watermark detecting device 2 for detecting watermarks in a sequence of images, having a sequence seed generator 21 generate a sequence seed of a watermark which is to be detected, and a detector 23 having a shift circuit 231 to shift the image data. (Muratani, Abstract, Figs. 10-11, ¶¶ [0097],

[0100]). Muratani explains that his detecting device 2 can detect the watermark even if the original, un-watermarked content is not available. (Muratani, ¶ [0047]). To achieve this goal, Muratani takes advantage of the fact that the watermark correlated with the un-watermarked content can be approximated by the watermark correlated with a shifted version of the same data amount of the watermarked content, providing that the shift is small enough. (See Muratani, ¶¶ [0043]-[0046], Fig. 12, steps S12, S14.) On this basis, Muratani suggests to detect the presence or absence of a watermark, by determining whether or not a value corresponding to the correlation of the watermarked content with the watermark therein is greater than a value corresponding to the correlation of the watermarked correlated with a shifted version of the watermarked content. (See Muratani, ¶¶ [0046], [0099]-[0104].) In Muratani, a “shifted version” means for example a lateral and horizontal coordinate shift of image data. (Muratani, ¶ [0101].)

However, Muratani fails to teach all the features of Applicants’ independent Claim 1.

In particular, Muratani fails to teach at least the following features:

when the dependent correlation value does not exceed the predetermined threshold, the correlator is operable to iteratively increase a number of parts of the partial code word used, to increase information quantity of the recovered partial code word.

(Claim 1, portions omitted.) As a fact, the cited passages of the reference Muratani fail to teach any features related to the conditional increase the length of the partial code word used, to increase the information quantity of the recovered partial code word.

The pending Office Action contends that Muratani teaches such a feature in his paragraph [0096]. (Office Action, p. 3, ll. 16-22.) This passages of Muratani explains how the process shown in Figure 12 of is repeated, where shifted content and a sequence of numbers that may be superimposed on the content is generated, until it is determined that the watermark is detected, by detecting that the sequence of numbers is superimposed. (Muratani,

¶¶ [0095]-[0096]). However, these passages of Muratani do not teach the features related to the correlator of Applicants' independent Claim 1, as next discussed.

In paragraph [0096], Muratani explains the watermark detection procedure shown in Figure 12. However, when it is stated in Muratani that this procedure is repeated, this does *not* mean that the number of parts of the partial code word is iteratively increased, as required by Applicants' Claim 1. The repeating of the process of paragraph [0096] refers to repeating the *whole* of the process of Figure 12, wherein each time the process is repeated a different watermark is generated in the "generate sequence" step (step S13), i.e., a different sequence seed candidate is used to generate a new sequence (watermark). This is clearly shown in Muratani's Figure 12; at step S16, if no superimposed sequence (i.e., watermark) is detected, the process returns back to step S13, the next sequence seed candidate is used to generate the next watermark which is then correlated with the encoded content.

The pending Office Action contends at the top of page 4 that in step 16 of Muratani's if the sequence (i.e., watermark/code word) is not yet found, the process is repeated and a new sequence added to the already generated sequences. Applicants respectfully submit that there is no basis for this assertion in Muratani. Paragraph [0097] clearly states that where there are plural sequence seed candidates, they are output (i.e., tried) in a predetermined order. There is no teaching of them being "added", nor would such a step make sense. Adding the different potential watermarks and then correlating them with the encoded material would simply act to reduce the chance of correctly correlating a given watermark with the encoded material, and therefore the solution presented in Muratani even teaches away from such feature.

Accordingly, the watermark taught in Muratani is not iteratively increased in its number of parts, instead the encoded content is sequentially correlated with a number of

different watermarks until the one which the content has actually been encoded with is identified. Therefore, Applicants respectfully traverse the rejection based on Muratani.

Independent Claims 11, 17 and 21 recite features analogous to the features recited in independent Claim 1, but directed to different statutory classes and having different scope, with Claim 11 directed to a method, Claim 17 directed to an encoding data processing apparatus, and Claim 21 directed to a system for identifying versions of a material item. Accordingly, for the reasons stated above for the patentability of Claim 1, Applicants respectfully submit that the rejections of Claims 11, 17 and 21, and all associated dependent claims, are also believed to be overcome in view of the arguments regarding independent Claim 1.

Consequently, in view of the present Request for Reconsideration, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-5, 7-15, 17-18, 21-22, 24 and 26-29 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

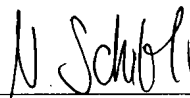
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